Document ID:PEI-EDF-1004
Revision ID:1
Effective Date:06/21/04

Engineering Design File

CERCLA Storage Area Secondary Containment for Storage of the PM-2A Tanks in the TAN-607A High Bay

Portage Project No.: 2073.00
Project Title: PM-2A Remediation Phase 1

Portage ENVIRONMENTAL

TEM-0104
03/30/2004
Rev. 0

1. Portage Project No.: 2073.00 2. Project/Task: PM-2A Remediation Phase 1

3. Subtask: Tank Excavation, Transport, and Storage

4. Title: CERCLA Storage Area Secondary Containment for the Storage of the PM-2A Tanks in the TAN-607A High Bay

5. Summary:

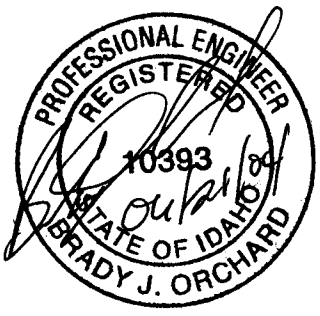
This engineering design file describes and specifies the provisions, facilities, and equipment to implement secondary containment requirements for the Comprehensive Environmental Response, Compliance, and Liability Act (42 United States Code 9601 et seq., 1980) storage of the PM-2A tanks subsequent to placement in the Test Area North-607A High Bay. 40 Code of Federal Regulations (CFR) 264.193 requires detection and containment of releases in association with the management of tank systems. This engineering design file provides design of the secondary containment system such that the tanks are in compliance with the requirements of 40 CFR 264.193.

6. Distribution: (Portage Environmental, Inc.)

Lisa Aldrich, PEI Document Control (Original)
Brady J. Orchard, P.E.
Clement B. Potelunas, P.E.
Ray Schwaller, P.E.
Jeff A. Towers

7. Review (R) and Approval (A) Signatures:
(Identify minimum reviews and approvals. Additional reviews/approvals may be added.)

	R/A	Printed Name/ Organization	Signature	Date
Author	A	Clement B. Potelunas, P.E.	Clement B Potelunas	6/21/04
Independent Review	R	Jeff A. Towers		6-21-04
Project Manager	R/A	Brady J. Orchard, P.E.		6/21/04



CONTENTS

1. INTRODUCTION AND PURPOSE

The purpose of this engineering design file is to provide the rationale and provisions for providing Hazardous Waste Management Act (HWMA) (HWMA 1983)/Resource Conservation and Recovery Act (RCRA) (42 United States Code [USC] 6901 et seq., 1976)-compliant secondary containment for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601 et seq., 1980) storage area in the Test Area North (TAN)-607A High Bay for the PM-2A tanks. The tanks will be stored following Phase 1 PM-2A tank remediation efforts pending final waste verification and treatment (conducted as part of Phase 2 remedial actions). The tanks contain F001-listed (i.e., chlorinated solvents, primarily perchloroethylene and trichloroethylene) mixed waste contaminated with radionuclides and heavy metals.

2. SECONDARY CONTAINMENT SYSTEM DESIGN AND DESCRIPTION

The secondary containment system (SCS) that will be provided for the CERCLA-compliant storage area will consist of the following items:

- A concrete wall will be placed around the tanks for radiological shielding. The concrete wall will form the perimeter of the SCS.

- The existing floor area enclosed by the walls will be covered with a 30-mil reinforced polypropylene liner. The liner will be turned up the inside of the wall to a height of approximately 12 in.

- The tanks, upon removal from the Technical Support Facility-26 site, will be wrapped in 30-mil polypropylene sheeting prior to being placed on the transporters. This material is to be placed around the tanks to prevent any debris remaining on the tanks following removal from inadvertently contaminating the transport path.

- In opposite corners of the SCS area, closed-circuit television (CCTV) cameras will be installed to provide a means of remote visual inspection of the tanks and secondary containment area.

The SCS has been designed, as described below, in accordance with the requirements of Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 [40 Code of Federal Regulations (CFR) 264.193(e)(1)] for liner systems.

- IDAPA 58.01.05.008 [40 CFR 264.193(e)(1)(i)]: External liner systems must be designed or operated to contain 100% of the capacity of the largest tank within its boundary.

The liner system will provide containment for approximately 21,500 gal of liquid volume; the estimated volume of the heels contained in both tanks is approximately 7,000–10,000 gal. The free liquid volume is significantly less but has not been quantified. The SCS will not contain 100% of the volume of the largest tank; however, it will contain in excess of 200% of the estimated volume of the semi-solid heels in both tanks.

The liner system capacity will be reevaluated prior to commencement of Phase 2 activities to ensure that it has sufficient capacity and is compatible with waste treatment options evaluated.

- IDAPA 58.01.05.008 [40 CFR 264.193(e)(1)(ii)]: External liner systems must be designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

The liner system will be located entirely within the TAN-607A facility. Additionally, the design and configuration of the system will prevent any potential run-on through the TAN-607A High Bay doors from entering the system.

- IDAPA 58.01.05.008 [40 CFR 264.193(e)(1)(iii)]: External liner systems must be free of cracks or gaps.

The liner system will consist of a continuous piece of polypropylene lining. Measures will be taken to ensure that the liner is not damaged during placement of the PM-2A tanks.

- IDAPA 58.01.05.008 [40 CFR 264.193(e)(1)(iv)]: External liner systems must be designed and installed to surround the tank completely and to cover all surrounding earth likely to come in contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

The liner system is designed to completely surround the tanks as placed in the TAN-607A High Bay (see Drawing P-FFA/CO-PM2A-004; Attachment 1).

3. SYSTEM ELEMENTS

The individual elements in the design of the SCS are further described in the following sections.

3.1 Concrete Wall

The blocks are of an interlocking design where the ends fit into adjacent blocks. The perimeter of the wall will be 120 ft 10 in. in length, 26 ft 8 in. in width, and 9 ft 0 in. in height (see Drawing P-FFA/CO-PM2A-004; Attachment 1). The interior dimensions will be 116 ft 2 in. in length and 22 ft 0 in. in width. The SCS will be prepared in such a manner that three sides will be in place prior to the placement of the tanks. The fourth side of the SCS will be closed after the tanks are placed in the area. The end wall will include a lockable gated opening to provide access to the storage/containment area (see radiological shielding details in PEI-EDF-1005). A shadow wall will also be installed to provide a means of shielding the entrance to the containment/storage area.

3.2 Liner

The floor area enclosed by the walls will be covered with a 30-mil polypropylene liner that is compatible with the waste per 40 CFR 264.193(c)(1). During the evaluation process, hypalon, reinforced polyethylene, and reinforced polypropylene materials were evaluated. The liner material must be compatible with a maximum of 1% perchlorethylene. The polypropylene liner materials exhibited the most resistant properties of the materials evaluated given the maximum concentration of perchlorethylene. See Attachment 2 for polypropylene liner specifications.

The liner will be turned up the inside of the wall to provide a containment height of approximately 12 in. The interior floor area of the walls will be cleaned to remove any materials or debris with a potential to adversely affect the integrity of the liner materials. The liner will be placed over the top of the steel tubing that will be located across the Assembly Pit to distribute the load of the tanks. A layer of 45-mil fire retardant FiberTite-SM membrane or DURA SKRIM 10FR or equal (see specifications in Attachments 3 and 4) will be placed between the steel tubing and the polypropylene liner to minimize the potential of puncturing the liner during preparation activities and tank transport and placement. The liner will be attached to the shielding wall utilizing mechanical fasteners (Hilti 1-in. length, 1/4-in. studs for concrete [Item No. 00306075] equipped with a 2-in. washer or equivalent) every 5–10 ft.

3.3 Tank Wrapping

Prior to transporting the tanks from the excavation site, the bottom 270° of the tank will be wrapped in 30-mil reinforced polypropylene sheeting to prevent the inadvertent contamination of the haul route (PEI-EDF-1003). The tanks will be stored in the TAN-607A High Bay area with the tank wrap in place. The wrapping media also serve as an additional containment barrier, adding depth to the degree of containment. The tanks will remain wrapped throughout the duration of time the tanks are within the SCS (shielding) area until the commencement of Phase 2 remedial actions.

3.4 Remote Closed-Circuit Television Monitoring

Because of the elevated radiation fields associated with the PM-2A tanks, a remote CCTV monitoring system will be installed at opposite corners of the SCS. This system will allow the remote monitoring of the CERCLA storage area, including the tanks and the secondary containment system. The CCTV system will have the capabilities of zoom, pan, and tilt in order to provide a full remote inspection of the SCS. If the existing lighting in the area is not sufficient to illuminate the areas to the detail or resolution necessary for remote monitoring, the lighting will be supplemented (as necessary) to perform inspections as required in IDAPA 58.01.05.008 (40 CFR 264.195) and also to meet the requirements for leak detection specified in IDAPA 58.01.05.008 [40 CFR 264.193(c)(3)]. Additional cameras may be added as determined necessary by INEEL Waste Generator Services and Test Area North operations personnel, who are responsible for monitoring the CERCLA storage area.

4. FIRE THREAT MITIGATION

Subsequent to the placement of the tanks into the SCS, the tank shielding enclosure will be completely covered with fire retardant membrane (FiberTite-SM membrane or DURA SKRIM 10FR or equal; see specifications in Attachments 3 and 4) draped to the floor in order to mitigate the threat of a potential fire.

5. REFERENCES

40 CFR 264, 2003, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," *Code of Federal Regulations*, Office of the Federal Register, July 1, 2003.

42 USC 6901 et seq., 1976, "Resource Conservation and Recovery Act of 1976," as amended.

42 USC 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation, and Liability Act of 1980," as amended. (NOTE: The 1986 amendment is cited as "Superfund Amendments and Reauthorization Act of 1986" [SARA].)

HWMA, 1983, "Hazardous Waste Management Act of 1983," Idaho Code Sections 39-4401 et seq.

IDAPA 58.01.05.008, 2004, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities," Idaho Administrative Procedures Act, Idaho Department of Environmental Quality, March 20, 2004.

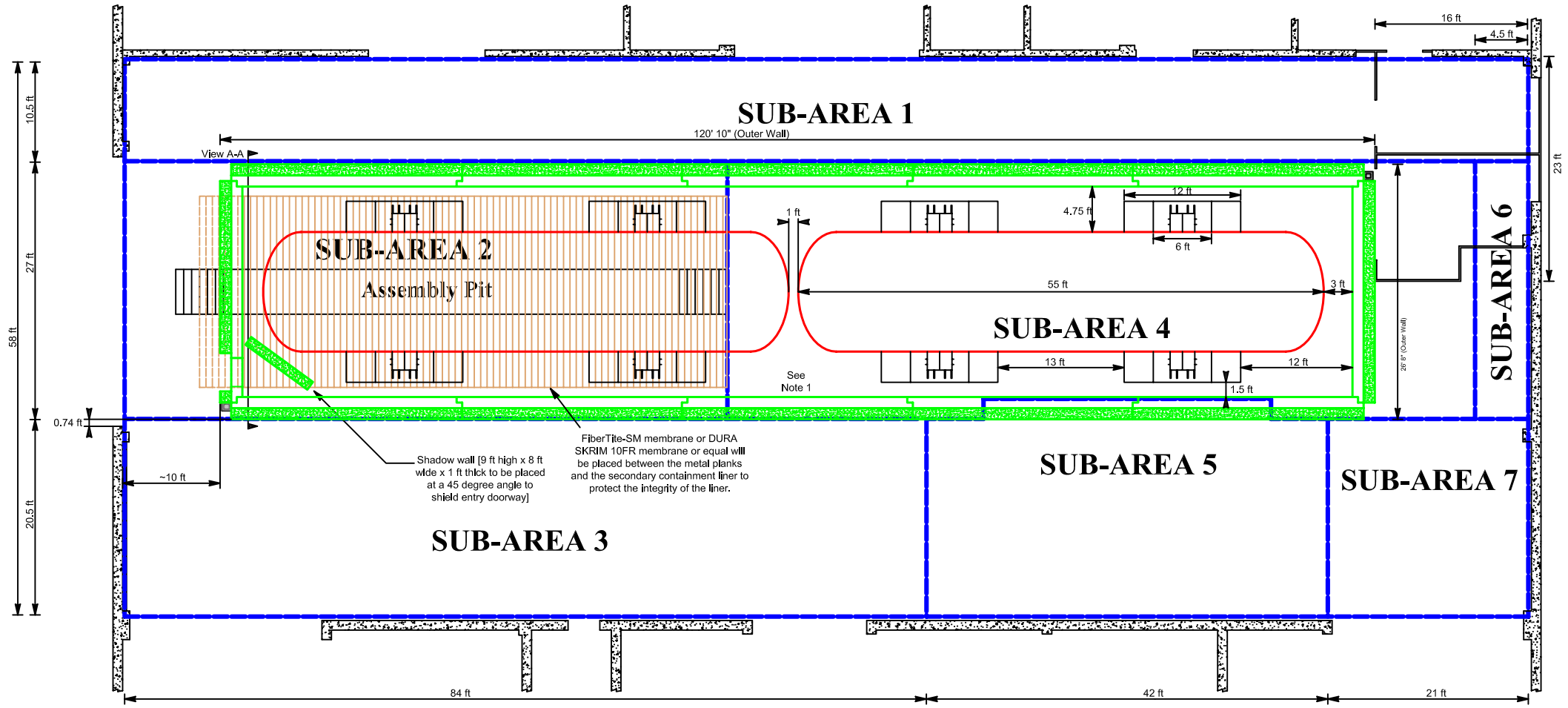
PEI-EDF-1003, 2004, "Reinforced Polypropylene Cover for PM-2A Tanks," Rev. 1, June 2004.

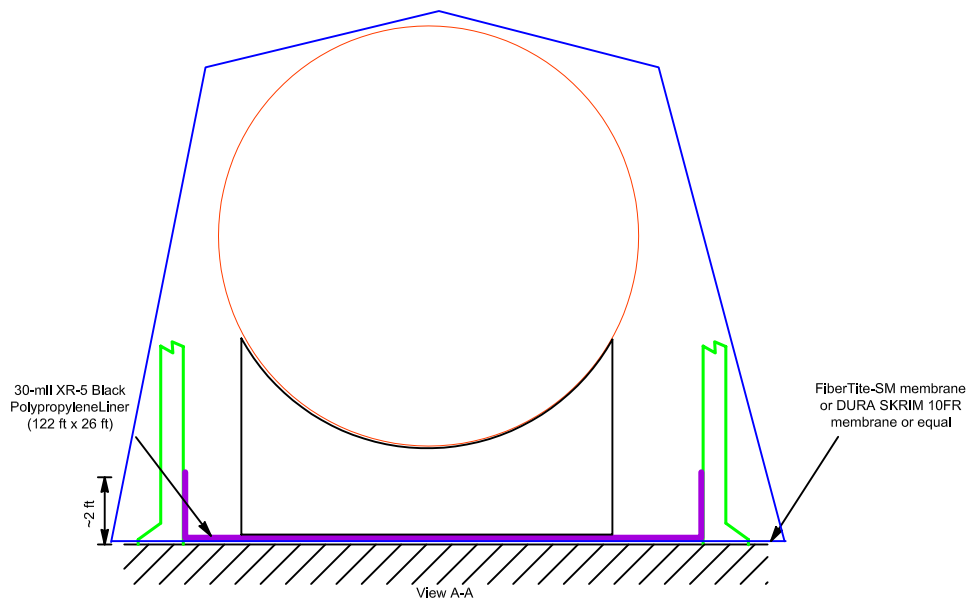
PEI-EDF-1005, 2004, "PM-2A Tank Shielding Requirements using MicroShield v. 6.02," Rev. 0, May 2004.

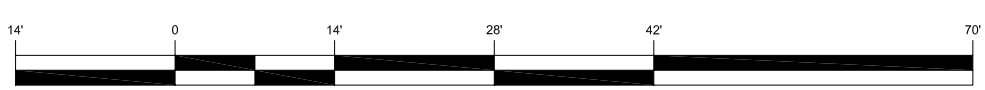
Attachment 1

Drawing No. P-FFA/CO-PM2A-004

TRUE PLANT







REVISIONS

REV	DESCRIPTION	EFFECTIVE DATE
1	UPDATED TO INCLUDE WALL PANEL DESCRIPTION	06/09/04

LEGEND

- BUILDINGS AND STRUCTURES
- SUB-AREA BOUNDARY (CONCRETE FLOOR LOADING)
- TUBE STEEL PLANK REINFORCEMENT (8" x 2" x 3/16" BY 20' LONG)
- TUBE STEEL PLANK REINFORCEMENT TO BE REMOVED AFTER TANK TRANSFER PRIOR TO SHIELD PLACEMENT
- PM-2A TANKS
- LINER
- REMOTE ACCESS CAMERA
- SHIELDING (14" THICK x 9' HEIGHT)

NOTES

1. SEE PEI-EDF-1005 FOR SHIELDING DETAILS

PROFESSIONAL ENGINEER REGISTERED 10393 STATE OF IDAHO BRADY J. ORCHARD

REVISION: 1
ORIGINAL SIGNED BY: Brady J. Orchard, PE
SEAL NUMBER: 10393
DATE ORIGINAL SIGNED: 5/21/04
ORIGINAL STORED AT: Portage Environmental, Inc.; Idaho Falls, ID

Portage ENVIRONMENTAL
IDAHO OPERATIONS OFFICE
P.O. BOX 3726
IDAHO FALLS, ID 83403
PHONE: 208.528.6608
FAX: 208.523.8860

IDAHO COMPLETION PROJECT
TEST AREA NORTH/TECHNICAL SUPPORT FACILITY
PM-2A REMEDIATION PROJECT
SECONDARY CONTAINMENT SYSTEM

SHEET:	1 OF 1	SCALE:	SHOWN		
DESIGN:	C. POTELUNAS	04/30/04	QA LEVEL:	Q	DWG SIZE: D
DRAWN:	M.P. LUNDELL	04/30/04	CONTRACT NO.:	2073.00	
CHECKED:	J. TOWERS	05/12/04	DRAWING NUMBER:	P-FFA/CO-PM2A-004	REV: 1
APPROVED:	B.J. ORCHARD	05/12/04			

Attachment 2

Polypropylene Liner Specifications

8130 XR-5® REINFORCED SHEETING

Product Code: XR-5®

PROPERTIES	TEST METHOD	VALUE
Profile thickness	Caliper	30.0
(+/- 10%) (mil)	weight ASTM D-751	30.0
Scrim Construction (polyester or nylon)		
-warp/thread count		not specified
-weft/thread count		not specified
-warp/denier		not specified
-weft/denier		not specified
Tensile Properties	ASTM D-751 A	
-grab tensile warp (lbs)		475
-grab tensile weft (lbs)		425
Tear Properties	ASTM D-751 B	
-tongue tear warp (lbs)		125
-tongue tear weft (lbs)		125
Strip Tensile (minimum lbs)	ASTM D-751 B	
-warp		400
-weft		350
Trapezoid Tear (minimum lbs)	ASTM D-1117 (Section 14)	
-warp		35
-weft		35
Hydrostatic Resistance	ASTM D-751 A	500
(psi)	(procedure 1)	
Puncture Resistance	ASTM D-751	800
(lbs. 1" ball)		
Low Temperature Flexibility	ASTM D-2136	-30
(1/8 in. mandral @ °F)(4 hrs)		no cracking
Dimensional Stability	ASTM D-1204	2.0
(% change maximum)	1 hr @ 212°	
Water Absorbtion	ASTM D-471 Section 12	5%max@70°
(% wgt change, maximum)		12%max@212°
Weathering Resistance	ASTM D-471 Section 12	no stiffening or cracking

(8000 minimum)

The values listed above are typical properties and are intended to be used as guidelines only. No guarantee or warranty regarding performances of theis product is made by Integra Plastics, Inc. as the manner of use, handling and conditions are beyond our control. Install in accordance with accepted industry standards.

050799-24

bp

Amoco Fabrics and Fibers Company
260 The Bluffs
Austell GA 30168
Phone 800-445-7732

June 4, 2004

Asphalt Maintenance
P O Box 50538
Idaho Falls ID 83405

Roll # 3515655

Amoco Fabrics and Fibers Company hereby certifies that above mentioned roll of ProPex 4553 shipped to you meets the following minimum average roll values:

Property	Test Method	Minimum Average Roll Value (English)	Minimum Average Roll Value (Metric)
Grab Tensile	ASTM-D-4632	203 lb	.900 Kn
Grab Elongation	ASTM-D-4632	50 %	50 %
Mullen Burst	ASTM-D-3786	380 psi	2610 kPa
Puncture	ASTM-D-4833	130 lb	.575 kN
Trapezoidal Tear	ASTM-D-4533	80 lb	.355 kN
UV Resistance	ASTM-D-4355	70 % at 500 hr	70 % at 500 hr
AOS	ASTM-D-4751	100 sieve	0.150 mm
Permittivity	ASTM-D-4491	1.5 sec^{-1}	1.5 sec^{-1}
Flow Rate	ASTM-D-4491	110 $gal/min/ft^2$	4470 $L/min/m^2$

Amoco Fabrics and Fibers Company manufactures all the nonwoven geotextile fabric certified above. The values are a result of testing conducted in on-site laboratories at the time of production. All test methods used are ASTM or industry standards. Test data is retained in the Quality Control files at Amoco's production facility.

Kay W. Williams
Production Analyst/Quality Assurance Manager
Amoco Fabrics and Fibers Company

ckb

bp

Amoco Fabrics and Fibers Company
260 The Bluffs
Austell GA 30168
Phone 800-445-7732

June 4, 2004

Asphalt Maintenance
P O Box 60538
Idaho Falls ID 83405

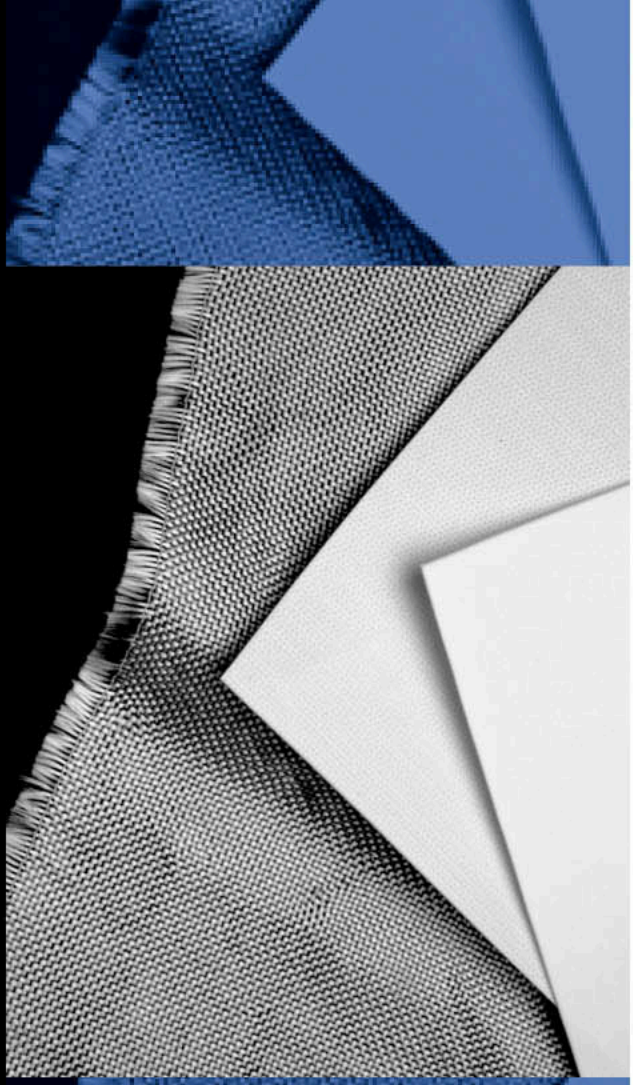
Re: Purchase Order #
Shipping #

Piece Number	Style	Weight Yd.2 Oz.	Thickness	Tensile	Elong	Burst	Puncture	Trap Tear	A.O.S.	Permittivity Sec.-1
2515655	4553	8.82	88	206	83	426	151	100	100	1.5

THIS DOCUMENT CONTAINS
INFORMATION CLAIMED AS
TRADE SECRET-CONFIDENTIAL
BY AMOCO FABRICS & FIBERS COMPANY

Attachment 3

FiberTite–SM Membrane Specifications



FiberTite® membrane features an 18 x 19 / 840 x 1,000 denier weft reinforced polyester knit fabric coated with a proprietary ethylene interpolymer (EIP) compound, utilizing DuPont Elvaloy® KEE as the principle polymer.

FiberTite is a nominal 36 mil (0.9 mm) thick, manufactured in 56" x 100' (1.4 m x 30.5 m) conventional roll goods and 20' x 64' (6 m x 19.5 m) prefabricated rolls with integral 3.5 in. (8.9 cm) wide continuous fastening tabs. Prefabricated rolls greatly reduce field welding and subsequent labor factors.

FiberTite is also available in custom, prefabricated roll widths and lengths. Field seaming is accomplished by fusing the thermoplastic EIP membrane with conventional hot air welding equipment.

FiberTite excels in UV, tear, puncture and flame resistance. FiberTite Roofing Systems are also resistant to most forms of fungus, algae and/or micro-biological attack.

FiberTite® Membrane

Guide Specifications for mechanically attached, fully adhered and ballasted FiberTite Roofing Systems are available upon request.

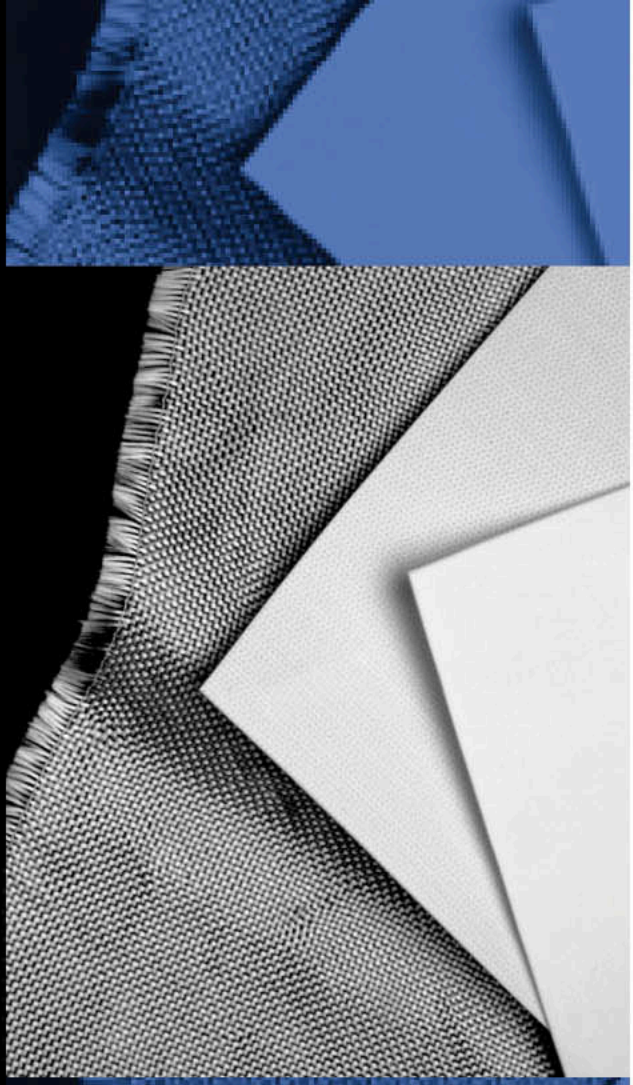
PHYSICAL PROPERTIES:

Thickness (nominal)	ASTM D-751	0.036 in. (0.9 mm)
Breaking Strength	ASTM D-751 Grab	375 X 350 lbs (1.7 x 1.6 kN)
Tensile Strength	ASTM D-882	8500 psi (598 kgf/cm^2)
Tear Strength	ASTM D-751	100 lbs (445 N)
Dynamic Puncture	ASTM D-5635	15 joules
Low Temperature Flex	ASTM D-2136	-30°F (-34°C)
Dimensional Stability	ASTM D-1204	< 1.0 %
Seam Strength	ASTM D-751	100% of fabric strength
Coating Adhesion	ASTM D-751	Cannot initiate coating peel
Hydrostatic Resistance	ASTM D-751	650 psi (46 kgf/cm^2)
Oil Resistance	Mil-C-2069C	No swelling, cracking, leaking
Ozone Resistance	ASTM D-1149	No effect

FiberTite® ROOFING SYSTEMS by Seaman Corporation

For more information on FiberTite Systems and Accessories please call:
Seaman Corporation (800) 927-8578, International (330) 262-1111.
FiberTite® is a registered trademark of Seaman Corporation.
Elvaloy® is a registered trademark of DuPont.
www.fibertite.com

1202



FiberTite®-SM membrane features an 18 x 19 / 840 x 1,000 denier weft reinforced polyester knit fabric coated with a proprietary ethylene interpolymer (EIP) compound, utilizing DuPont Elvaloy® KEE as the principle polymer.

FiberTite-SM is a nominal 45 mil (1.1 mm) thick, manufactured in 56" x 100' (1.4 m x 30.5 m) conventional roll goods and 20' x 64' (6 m x 19.5 m) custom rolls with integral 3.5 in. (8.9 cm) wide continuous fastening tabs. Custom rolls greatly reduce field welding and subsequent labor factors.

FiberTite-SM is also available in additional customized roll widths and lengths. Field seaming is accomplished by fusing the thermoplastic EIP membrane with conventional hot air welding equipment.

FiberTite-SM excels in UV, tear, puncture and flame resistance. All FiberTite Roofing Systems are also resistant to most forms of fungus, algae and/or micro-biological attack.

FiberTite® - SM Membrane

Guide Specifications for mechanically attached, fully adhered and ballasted FiberTite Roofing Systems are available upon request.

PHYSICAL PROPERTIES:

Thickness (nominal)	ASTM D-751	0.045 in. (1.1 mm)
Breaking Strength	ASTM D-751 Grab	375 X 350 lbs (1.7 x 1.6 kN)
Tensile Strength	ASTM D-882	8500 psi (598 kgf/cm^2)
Tear Strength	ASTM D-751	100 lbs (445 N)
Dynamic Puncture	ASTM D-5635	20 joules
Low Temperature Flex	ASTM D-2136	-30°F (-34°C)
Dimensional Stability	ASTM D-1204	< 1.0 %
Seam Strength	ASTM D-751	100% of fabric strength
Coating Adhesion	ASTM D-751	Cannot initiate coating peel
Hydrostatic Resistance	ASTM D-751	650 psi (46 kgf/cm^2)
Oil Resistance	MIL 2069C	No swelling, cracking, leaking
Ozone Resistance	ASTM D-1149	No effect

FiberTite® ROOFING SYSTEMS by Seaman Corporation

For more information on FiberTite Systems and Accessories please call:
Seaman Corporation (800) 927-8578, International (330) 262-1111. www.fibertite.com

Attachment 4

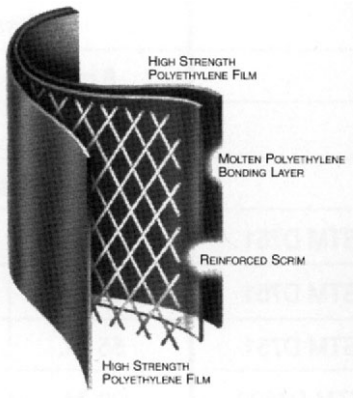
Americover DURA SKRIM 2FR and 10FR Specifications

Americover®

DURA SKRIM® 2FR & 10FR

PRODUCT DESCRIPTION

DURA SKRIM 2FR and 10FR consist of two sheets of high-strength fire-retardant film laminated together with a third layer of molten polyethylene. A heavy-duty scrim reinforcement placed between these plies greatly enhances tear resistance and increases service life. **DURA SKRIM's** fire-retardant films meet or exceed NFPA's 701 large and small scale requirements in addition to CPAI Section 6 and 7.



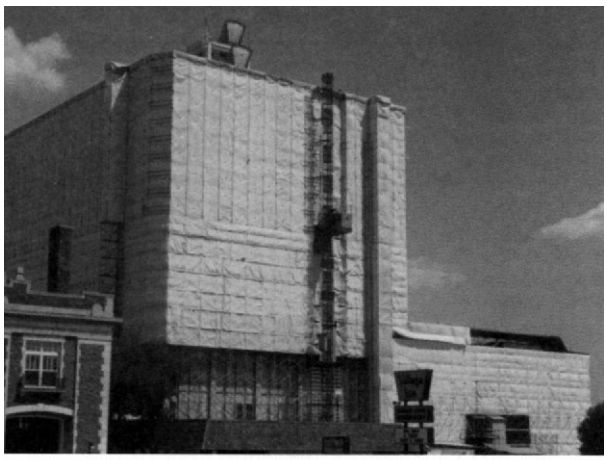
PRODUCT USE

DURA SKRIM 2FR and 10FR are used in applications that require a fire-retardant material, and demand high puncture and tear strengths.

SIZE & PACKAGING

DURA SKRIM 2FR and 10FR are available in a variety of widths and lengths. Panel sizes up to 40,000 square feet are available. All panels are accordion folded and tightly rolled on a heavy-duty core for ease of handling and time saving installation.

DURA-SKRIM®



Building Enclosure

COMMON APPLICATIONS

- Construction Enclosures
- Vapor Barriers
- Asbestos Abatement
- Fumigation Covers
- Insulation Membranes
- Temporary Walls
- Curtains
- Job Site Coverings

toll free (800) 747-6095 • local (760) 747-6095 • fax (760) 747-1920
e-mail: sales@americover.com • website: www.americover.com
2067 Wineridge Pl. #F • Escondido, CA 92029

DURA SKRIM® 2FR & 10FR

PROPERTIES	TEST METHOD	DURA•SKRIM 2FR		DURA•SKRIM 10FR	
		English	Metric	English	Metric
APPEARANCE		Translucent, Cream Color			
THICKNESS, NOMINAL		6 mil	0.152 mm	10 mil	0.25 mm
WEIGHT PER MSF		20 lbs	9.0 kg	43 lbs.	20 kg
CONSTRUCTION		Extrusion laminated with scrim reinforcement			
***1" TENSILE STRENGTH**	ASTM D751	40 lbf.	178 N	50 lbf.	222 N
ELONGATION AT BREAK	ASTM D751	300%	400%	600%	600%
***GRAB TENSILE**	ASTM D751	50 lbf.	222 N	78 lbf.	347 N
***TRAPEZOID TEAR**	ASTM D4533	35 lbf.	156 N	52 lbf.	231 N
HYDROSTATIC RESISTANCE	ASTM D751	32 psi	220 kPa	74 psi	510 kPa
MULLEN BURST	ASTM D751	53 psi	365 kPa	169 psi	1165 kPa
MAXIMUM USE TEMPERATURE		180°F	82°C	180°F	82°C
MINIMUM USE TEMPERATURE		-70°F	-57°C	-70°F	-57°C
PERMEABILITY					
WVTR	ASTM E96 Method A	0.058 g/100in^2/day	0.90 g/m^2/day	0.013 g/100in^2/day	0.20 g/m^2/day
PERM RATING	ASTM E96 Method A	0.13 U.S. Perms	0.085 Metric Perms	0.030 U.S. Perms	0.020 Metric Perms
BURNING CHARACTERISTICS **FLAME SPREAD INDEX** **SMOKE DEVELOPED VALUE**	ASTM E84 Method A	 0 20		 5 75	

*Tests are an average of diagonal directions.

MEETS OR EXCEEDS THE FOLLOWING FIRE TESTING:
1. National Fire Protection Association (NFPA) 701 Large and Small Scale
2. Canvas Products Association International (CPAI) Section 6 (Flooring Material)
3. Canvas Products Association International (CPAI) Section 7 (Wall and Top)
4. Class " A" Wall and Ceiling Finish Category as given in the National Fire Protection Association Life Safety Code 101, Section 6-5.3, "Interior Wall and Ceiling Finish Classifictaion" (ASTM E-84-97a).

DURA SKRIM 2FR and 10FR are fire-retardant four-layer reinforced extrusion laminates. The outer layers consist of a high quality polyethylene film with a high concentration of fire-retardant additives. DURA SKRIM 2FR and 10FR are reinforced with a minimum of 900 denier scrim laid in a diagonal pattern spaced 3/8" apart with an additional machine direction scrim every 9" across the width. The individual piles are laminated together with molten polyethylene.

Note: To the best of our knowledge, these are typical property values and are intended as guides only, not as specification limits. AMERICOVER® MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.

Americover®
toll free (800) 747-6095 • local (760) 747-6095 • fax (760) 747-1920
e-mail: sales@americover.com
website: www.americover.com